

ABSTRACT OF THE DISCLOSURE

An electrophotographic marking device includes a xerographic marking module and an environmental control module which controls temperature and relative humidity inside the marking module. The environmental module has a main plenum chamber and a divided or split plenum chamber to create and supply two air streams with different temperatures and/or different humidities and/or different airflow volumes and/or airflow rates to a marking engine. A primary air stream plenum chamber is closed loop controlled by input from one or more temperature and/or humidity sensors in the xerographic module. A secondary air stream plenum chamber is open loop controlled by means of one or more temperature and/or humidity sensors in one or more developer housings. Heating of the secondary air stream is achieved by heat generated in the developer housing(s) and/or one or more heaters distinct from the developer unit elements. The system achieves balanced, thermodynamically adjusted, air flows.